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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,607

07/17/2007

Sergej Lopatin

LOPA3010 /FJD

3404

23364 7590 07/13/2009

BACON & THOMAS, PLLC

625 SLATERS LANE

FOURTH FLOOR

ALEXANDRIA, VA 22314-1176

EXAMINER

GORDON, BRYAN P

ART UNIT

PAPER NUMBER

2837

MAIL DATE

DELIVERY MODE

07/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,607	Applicant(s) LOPATIN, SERGEJ	
	Examiner BRYAN P. GORDON	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2008 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 8, 10-11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brutschin (PG Pub 20030159506) and in view of Lopatin (PG Pub 20050034521).

5. Considering claim 8, Brutschin teaches an apparatus for determining and/or monitoring a process variable of a medium, comprising: a membrane (5); an oscillatable (2) unit secured to said membrane; a sending/receiving unit (6), which excites said oscillatable unit to oscillate and which receives oscillations of said oscillatable unit; a control/evaluation unit (10), which, on the basis of the oscillations of said oscillatable

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unit, monitors and/or determines the process variable, wherein; said sending/receiving unit comprises a disk-shaped, piezoelectric element (15).

However, Brutschin does not teach said disk-shaped, piezoelectric element has two segments, which are essentially polarized oppositely to one another; said two segments of said disk-shaped are connected in series; exactly two electrodes of opposite polarity are applied to the side of said disk-shaped, piezoelectric element facing away from said membrane and said exactly two electrodes of opposite polarity are applied to said disk shaped, piezoelectric element facing away from said membrane.

In the same field of endeavor, Lopatin teaches said disk-shaped, piezoelectric element has two segments, which are essentially polarized oppositely to one another (paragraph 0015 lines 14-16); said two segments of said disk-shaped are connected in series (just referring to one piezo-drive (i.e. segment) and not the stack piezoelectric elements which are connected in parallel); exactly two electrodes of opposite polarity are applied to the side of said disk-shaped (paragraph 0015 lines 11-13), piezoelectric element facing away from said membrane and said exactly two electrodes of opposite polarity are applied to said disk shaped, piezoelectric element facing away from said membrane (paragraph 0015 lines 11-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brutschin's device with Lopatin's for detecting oscillation and producing a wagging motion which makes the oscillatable unit fabrication

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cost decrease since it can have almost any shape and that the drive can be space-efficient and easily mounted.

6. Considering claim 10, Brutschin (5a) teaches wherein the electrodes (18-21) have essentially the same shape.

7. Considering claim 11, Brutschin (5a) teaches wherein the electrodes (18 and 21 make up one semicircle and 19 and 20 make up the other) have the shape of semicircular segments.

8. Considering claim 13, Brutschin teaches said piezoelectric element is provided on the said facing said membrane at least partially with a conductive coating (paragraph 0018).

9. Considering claim 14, Brutschin teaches wherein the said membrane is connected electrically conductively with ground (paragraph 0006).

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brutschin (PG Pub 20030159506), in view of Lopatin (PG Pub 20050034521) and in view of Lewiner (US PN 4,553,089).

11. Considering claim 12, Brutschin in view of Lopatin does not teach said electrodes are so structured and arranged that they annularly surround themselves.

Lewiner teaches said electrodes are so structured and arranged that they annularly surround themselves (col. 2 lines).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to include the electrodes annularly surrounding themselves taught by Lewiner with the combination above since a simple substitution of electrodes

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surrounding themselves would produce predictable results (i.e. oscillation/vibration) of the device.

Response to Arguments

12. Applicant's arguments, see pages 4-7, filed 24 June 2009, with respect to the finality of the rejection have been fully considered and are persuasive. The final rejection of application has been withdrawn.

Regarding, the applicants argument over the examiner using the Lewiner reference, claim 12 does not claim electrodes that are oppositely charged, nor does it claim ones fixed to a membrane. The only thing the applicant claims are electrodes are so structured and arranged that they annularly surround themselves. Therefore, the applicant's argument is moot.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN P. GORDON whose telephone number is (571)272-5394. The examiner can normally be reached on Monday-Thursday 8:00-5:30, Friday 7:30-4:00.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bryan P Gordon/

Examiner, Art Unit 2834

/Walter Benson/

Supervisory Patent Examiner, Art Unit 2837